DOCUMENT RESUME

ED 188 170 CS 205 569

AUTHOR Battle, Mary Vroman
TITLE Error Reduction by Freshman Writers and Its Relationship to Grouping.
PUB DATE Mar 80
NOTE 11p.: Paper presented at the Annual Meeting of the Conference on College Composition and Communication (31st, Washington, DC, March 13-15, 1980).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Ability Grouping; College Freshmen; *Educational Research; *Error Analysis (Language); Higher Education; Nontraditional Students; Performance Factors; Predictor Variables; *Writing (Composition); *Writing Instruction; *Writing Skills

ABSTRACT

A study was conducted to determine what conditions connected with college students' entering status were associated with significantly increased error reduction during the first semester of freshman composition and what factors connected with preparation made it possible to classify students who proved to be successful--or unsuccessful--in that semester of the standard course in composition. Three sections of freshman composition that contained students just above, just at, or just below passing were selected for the study. Student placement in the course sections was determined by ACT-English scores and by the number of errors in their initial writing samples. The only variation in the instruction of the three sections was that more class time was given to the particular problems observed in the writing of the majority of students in each section. Errors in the initial and final compositions of the students were analyzed. The results showed that students studying in sections that gave time to their particular problems significantly reduced their errors. Several factors studied distinguished between students who passed and those who failed. A combination of initial errors, ACT score, age, and full time/part time status correctly classified 97.5% of the students. (FL)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED188170

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Mary Vroman Battle
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ERROR REDUCTION BY FRESHMAN WRITERS AND ITS RELATIONSHIP TO GROUPING

Mary Vroman Battle
Department of English
Memphis State University
Memphis, Tennessee 38152

By the end of the first semester of standard freshman English, frequently a number of students do not evidence enough skills in writing words and sentences--no matter how much they know about writing paragraphs and essays--to enable them to write the five-hundred-word essay that is often the sine qua non for success in the course. The problem that these students face is intensified by the fact that many of the skills in writing words and sentences required at the end of the course are given little or no attention during the semester on the theory that such skills should have been developed before the students entered college. Although traditional research on helping students learn writing has focused on teaching methods, on texts, and on education of teachers, orderly investigation must now focus on the role played by the entering students' preparations in the writing of words and sentences. Further, particularly in light of recent discussions of commercial tests and writing samples for placement, a study must be made of a satisfactory means of identifying students who need additional preparation for the standard course.

The purpose of this ex post facto study was to discover relationships between the preparations of students entering the first semester of freshman English, partly in terms of the number of errors in the words and sentences of the initial writing sample, and the accomplishments of those students at the end of the course. After the maximum number of errors that the instructor allowed for passing and the average number of errors students reduced during the semester were found, two questions arose. What conditions connected with the students' entering statuses were associated with significantly increased error reduction during the semester? What factors connected with preparation made it possible to classify students who proved to be successful in one semester of the standard course and those students who proved not to be?

CS205569

Method

Three sections of the beginning composition course at Memphis State University which contained students just above, just at, or just below passing were selected. Students in Section One had a mean score of 20 in ACT-English and made an average of 11 errors in the initial one hundred words of their writing samples. Students entering Section Two, students whose skills varied widely, had a mean score of 16 (range of 8 to 23) in ACT-English and made an average of 16 errors (range of 5 to 38) in the initial one hundred words. Students in Section Three, a section planned for those needing pre-standard English but changed to meet requirements of standard English, had a mean score of 12 in ACT-English and made an average of 19 errors in the initial one hundred words. All sections were taught by an experienced teacher who used the same dialogical method and the same grading procedure. Standard written English was expected. The only variation was that the particular problems observed in the words and sentences of the compositions of the majority of the students in each section were given different class times--20, 30, and 50 minutes each week. For instance, Section One focused on subordination and correct location of modifiers; Section Two focused on problems like those of Section Three but spent less time; Section Three focused on such matters as subject-predicate agreement, correct verb forms, and spelling. All errors in compositions were marked and were required corrected. Writing good essays occupied most of the class periods and out-of-class assignments.

The errors in the first one hundred words of both the initial and the final compositions of each student were divided into seven categories--incorrect word usage, mispunctuation and mis-capitalization, misspelling, poor syntax, incorrect verb form or tense, misuse of nouns or pronouns, and other errors--and were tabulated. Grader reliability between two readers, using Diederick's tetrachoric correlation (1974), was .92.

To determine whether conditions connected with a student's entering status were associated with a significantly increased reduction in the number of errors during the semester, the researcher used two methods. The reduction in number of errors by each sex, by each section, and for each of the seven categories of errors was checked for significant differences by means of an analysis of variance and covariance with repeated measures. The reductions in number of errors of students scoring 17 and above in ACT-English and those scoring 16 and below versus the reductions by students studying in sections appropriate to their needs and by students studying in sections inappropriate to their needs were checked for significant differences by means of a two-way analysis of variance. (Students were considered to be studying in appropriate sections if they had a score of 17 or above in ACT-English and studied in Section One or if they had a score of 16 or below in ACT-English and studied in Section Three; students were considered to be studying in inappropriate sections if they had a score of 16 or below in ACT-English and studied in Section One or if they had a score of 17 or above in ACT-English and studied in Section Three, and the students in Section Two were considered somewhat inappropriately situated since only a little class time could be spent on a very wide range of problems.)

To determine which individual factors and which combination of factors connected with the entering status of students classified students correctly as to passing (A, B, or C) or failing (D, as it does not meet requirements for graduation, and F), a statistician did stepwise discriminant analyses. Students had to have non-missing values for the number of initial errors, the number of errors in each category, ACT-English, ACT-mathematics, ACT-social studies, ACT-natural science, ACT-composite, age, sex, and full-time/part-time status. Variables were selected on the basis of ability to discriminate and were tested until no further power to discriminate was possible.

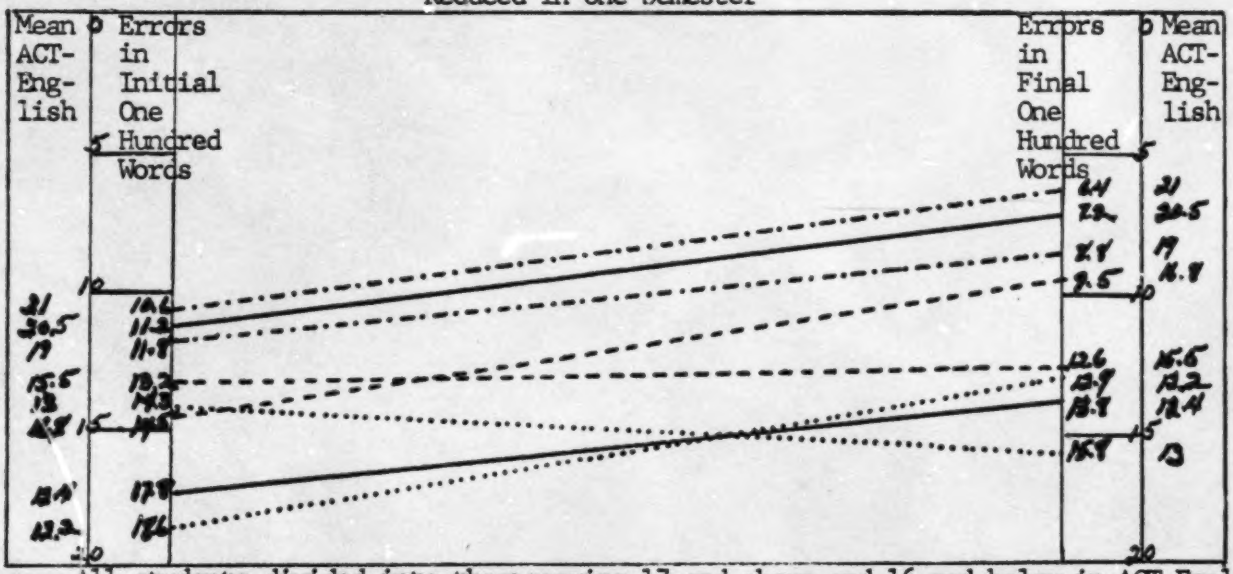
Results

Those students who passed the course by writing fully acceptable essays had 8 or fewer errors in the first one hundred words of their final compositions. Students who had 9 or more errors earned lower overall grades in the course irrespective of other attainments. Of the 40 students for whom all information was available, 12 students passed. No student with a score of 16 or below in ACT-English passed on his first attempt.

The average number of errors reduced by the students in the three sections was 3.7 errors in one hundred words of organized discourse. If each of the remaining students improved during a second semenster of standard English at the same rate of reduction as he did during the first semester, 15 additional students would pass. Of course, each error reduced represents not merely a fact memorized or a theory understood but a skill gained.

Only one condition studied that was connected with a student's entering status was associated with significanlty increased learning, that is, error reduction. This condition was the student's studying in a section that gave time to his particular needs. By contrast, the other factors were not significantly associated with increased learning; there was no significant difference in number of errors reduced by the sexes, by the sections, for the seven types of errors, or by students scoring 17 and above or 16 and below in ACT-English. For example, students with scores of 17 and above in ACT-English (mean 20.5) did not reduce their number of errors (mean 4) significantly more than the students with scores of 16 and below (mean 12.4) reduced their errors (3.5). (See Chart 1.) But, students who studied in a section with others who had many similar problems reduced their errors significantly more than students who studied in a section with students with dissimilar problems, $F(1)=5.60$, $p < .02$. For the whole sample, people who studied in classes with other who had similar scores (mean 16.8) reduced errors by 4.9, but people who studied in classes with others who had dissimilar scores (mean 15.5)

Chart 1
Number of Errors in Words and Sentences
Reduced in One Semester



——— All students divided into those scoring 17 and above and 16 and below in ACT-English.
------ All students divided into those in suitable sections and those in unsuitable sections.
····· Students of 16 and below in ACT-English divided into appropriately and inappropriately placed.
-·-·- Students of 17 and above in ACT-English divided into appropriately and inappropriately placed.

Table 1
Per Cent of Students Correctly Classified As to Passing or Failing by Discriminatory Variables

Discriminatory Variables	Canonical Correlation[a]	% Correctly Classified
Initial Errors	.6554	55
ACT-Composite	.6152	60
ACT-English	.6392	77.5
Initial Errors and ACT-English	.7012	92.5
Initial Errors, ACT-English, Age, and Full or Part-time Status	.7749	97.5

[a]Significant <.000

Table 2
Variations in Discriminants for Students Correctly Classified As to Passing or Failing

Initial Errors	ACT-English	Age	Full-Time or Part-Time	Pass or Fail
10	21	22	Full	Pass
21	21	22	Full	Fail
12	21	24	Full	Pass
5	21	18	Full	Pass
14	25	22	Full	Pass
12	17	23	Part	Fail

reduced errors by .5. For the sample subdivided, students with scores of 16 and below (mean 12.2) who studied in an appropriate section reduced errors by 5.7, but those students with scores of 16 and below (mean 13) who studied in an appropriate section increased their errors by 1.5; students with scores of 17 and above (mean 21) who studied in appropriate sections reduced their errors by 4.2, but those students with scores of 17 and above (mean 19) who studied in inappropriate sections reduced errors by only 3. A student's studying in a section that gave time to his particular errors was the main effect.

It might be added that a student's studying in a section which allowed class time for his needs in words and sentences was associated with the student's not dropping the course; although 20% of the students who dropped were situated in sections appropriate to their needs, 80% of the students who dropped were situated in sections inappropriate to their needs, $\chi(1)=3.96$, $p < .047$.

In a further analysis of the reduction of errors, some differences in the rate of reduction became clear. The rate or per cent of reduction was defined as the initial number of errors minus the final number of errors divided by the initial number. In rate of improvement, the sutdents with scores of 17 and above in ACT-English (mean of 10.8 initial errors) improved their skills towards zero errors at a rate of 36%, significantly faster than students with scores of 16 and below (mean of 17.35), who improved their skills at a rate of 15%, $t(25)=2.13$, $p < .04$. Also, students in Section Three had a significantly slower rate of improvement than had students in the other sections for one type of error, nouns and pronouns.

Several factors studied distinguished between those students who passed and those who failed. The number of errors in the initial writing sample correctly classified 55% of the students as to passing or failing. (See Table 1.) The scores in ACT-English--which gave better results than any other ACT-sub-scores,

than the ACT-composites, and than any combinations of ACT-scores--correctly classified 77.5% of the students. A combination of the number of initial errors and the score in ACT-English mathematically weighted in a formula correctly classified 92.5% of the students. A combination of the number of initial errors, the score in ACT-English, the age, and the full-time/part-time status correctly classified 97.5% of the students. The only student misclassified was one who became ill during the semester.

Discussion

The results of this study suggest that the students' learning to reduce errors in words and in sentences was important to passing, required time during a semester or more of suitable guided practice, and was facilitated by grouping students according to preparation. Universities which admit students who are inadequately prepared in writing can provide one or more additions to the standard course, such additions as laboratories, developmental sections, pre-standard courses that emphasize writing well-worded sentences in short compositions, or courses partially designed to overcome dialect or second-language interference. Those students with low ACT-English scores who studied in a section of the standard course with well-prepared students increased their errors probably not merely because they temporarily increased errors when learning to handle a new technique (all of the students were learning some techniques that were new) but because they were asked to learn such new techniques while at the same time they were learning new skills in writing essays and learning, with little help from classes, new basic skills in writing correct words and clear sentences. Having an addition to the standard course enables students with poor preparation to learn one set of skills at a time; and having the standard course reserved for students with good preparation enables them to make rapid progress. The benefits for all students rebound to their teachers (increased satisfaction), to English departments (added majors and minors), to the universities (increased credit-hour production through increased recruitment),

to the states (lowered drop-out rates).

That the number of initial errors did not classify the students well as to passing or failing is not surprising since the number of errors reduced varied considerably with the appropriateness of the section in which the students studied. The combination of four discriminant factors that did classify students well probably reflected in varying degrees the students' preparations--their starting points in terms of number of initial errors, their previous academic accomplishments and academic aptitudes in terms of ACT-English, and their syntactic maturity in terms of age--along with the students' motivations in terms of age and their time available for academic pursuits in terms of attending full-time. (F to enter or remove the discriminant variables was 26.25 for ACT-English, 6.06 for initial errors, 4.97 for age, and 4.13 for full-time/part-time status.) A variation in any of the four discriminant factors could affect classification as to likelihood to succeed. (See Table 2.) For instance, a student who had 10 initial errors, who scored 21 on ACT-English, who was 22 years old, and who attended full-time was correctly classified as successful; but a student who had 21 initial errors, who scored 21 on ACT-English, who was 22 years old, and who attended full-time was correctly classified as unsuccessful. Although the analytic-scale-form of holistic evaluation of writing samples alone is believed to be adequately valid and reliable for placement (Cooper and Odell, 1977), the findings of this study suggest that a method which considers only the writing sample or only an ACT-score, disregarding other factors contributing to success, is not as valid as it might be.

To develop a formula using a combination of discriminants that is suitable for the students entering a particular department of English, a person can select several teachers who have acceptable methods and standards, can arrange for gathering data from students' initial papers in several sections of a completed semester, and can have the discriminants run. The classification formula is drawn from the discriminant analysis. One part of the formula predicts success; it includes mathema-

tical weights (the classification function coefficients from the discriminant analysis) to be multiplied by a student's actual values for each discriminant variable along with a control and a logarithm of prior probability. A second part predicts failure; it includes mathematical weights to be multiplied by a student's actual values along with a control and a logarithm of prior probability. Whichever part of the formula produces the higher absolute value for a particular student indicates the classification the student is likely to fall into. A formula developed in this study was composed of the part predicting success: .52821 (number of initial errors) + 1.68472 (ACT-English) -20.21506 -1.29098--and of the part predicting failure: +.75908 (number of initial errors) + 1.22816 (ACT-English) -15.03168 -.321584. Whenever newly arrived students complete their initial writing samples, computers or calculators can apply the formula in order to group students into helpful courses.

Further Study

This study should be enlarged and/or replicated with consideration of added factors of composition: T-units, dialect-associated errors, surface versus deep-structured errors, effectiveness of words and sentences, elements of paragraph-writing, and elements of essay-writing. Once a formula for grouping is locally discovered (possibly one expressing a writing sample in a mathematical figure and using SAT-scores) an experiment can be set up to test the learning effects of correct grouping of all students in control sections. Then, once students are preparation-grouped, it is possible to study learning and improvement rates of various methods of teaching, with various texts, and with various systems of paper-marking. Since considering the initial preparations of students in terms of several factors--principally the inital errors and the score in ACT-English--as a basis for grouping students has the potential to improve significantly students' accomplishments in writing words and sentences in organized compositions, further studies can serve as additional steps in helping our young people communicate their light to the world.

References

Diederick, Paul G., Measuring Growth in English. Urbana: NCTE, 1974. (P.33.)

Cooper, Charles R., and Odell, Lee., Evaluating Writing: Describing, Measuring, Judging. Urbana: NCTE, 1977. (Pp. 16-17.)